

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A plasma processing apparatus comprising:

a vacuum chamber in which predetermined processing is to be applied on a substrate to be processed by action of plasma on the substrate to be processed, inside of the vacuum chamber being airtightly closable;

a bottom electrode provided in said vacuum chamber and configured to have the substrate to be processed placed thereon;

a top electrode provided to face said bottom electrode;

a processing gas supply mechanism configured to supply predetermined processing gas into said vacuum chamber;

a first radio-frequency power source configured to supply a radio-frequency power with a predetermined first frequency to said bottom electrode;

a second radio-frequency power source configured to supply to said bottom electrode a radio-frequency power with a second frequency that is lower than the first frequency;

a first power feeder having a first matching device that performs impedance matching for the radio-frequency power to be supplied to said bottom electrode from said first radio-frequency power source, said first power feeder being configured to feed the radio-frequency power with the first frequency to said bottom electrode from a center portion of said bottom electrode; and

a second power feeder having a second matching device that is structured as a separate body from said first matching device and performs impedance matching for the radio-frequency power to be supplied to said bottom electrode from said second radio-frequency power source, said second power feeder being configured to feed the radio-

frequency power with the second frequency to said bottom electrode from an outer peripheral portion of said bottom electrode,

~~wherein said bottom electrode is supported on an insulator plate formed in a plate shape, and a space is formed between the insulator plate and a bottom portion of said vacuum chamber that is set to a ground potential and~~ at least a portion of said first matching device is disposed in the space vacuum chamber.

2. (Canceled).

3. (Canceled).

4. (Previously Presented) A plasma processing apparatus as set forth in claim 1, wherein said first matching device is electrically connected to said bottom electrode via a non-coaxially structured feeding rod.

5. (Previously Presented) A plasma processing apparatus as set forth in claim 1, wherein the first frequency is 13.56 MHz to 150 MHz.

6. (Previously Presented) A plasma processing apparatus as set forth in claim 1, wherein the second frequency is 0.5 MHz to 13.56 MHz.

7. (Previously Presented) A plasma processing apparatus as set forth in claim 1, wherein capacitance of said bottom electrode is set to 50 pF or less.

8. (Previously Presented) A plasma processing apparatus as set forth in claim 1, wherein the substrate to be processed is etched by the action of the plasma on the substrate to be processed.

9. (New) A plasma processing apparatus as set forth in claim 1, comprising:
said bottom electrode being disposed on an insulator plate;
a space formed within said chamber between said insulator plate and a bottom of said vacuum chamber; and
said matching device being disposed in said space.

10. (New) A plasma processing apparatus as set forth in claim 1,
wherein said non-coaxially structured feeding rod is located entirely within said vacuum
chamber.